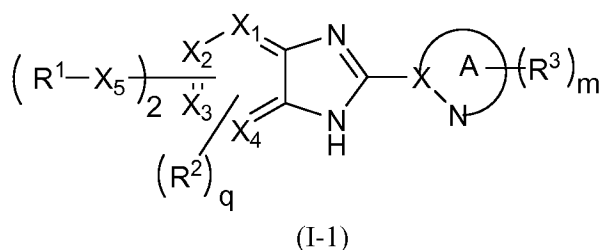


Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-26 (Cancelled)

Claim 27 (New) A compound of a formula (I-0):



or a pharmaceutically acceptable salt thereof, wherein:

X represents a carbon atom or a nitrogen atom;

X₁, X₂, X₃ and X₄ each independently represent a carbon atom;

one X₅ represents a member selected from the group consisting of O, S, S(O) and SO₂ and the other X₅ represents a direct bond;

ring A represents a member selected from the group consisting of thiazolyl, imidazolyl, isothiazolyl, triazolyl, oxazolyl, oxadiazolyl, pyrazinyl, pyridyl, pyrazolyl and pyrimidinyl;

each R¹ represents an aryl group, or 5-6 membered N containing heteroaryl group, having 1-4 total heteroatoms, selected from N, O and S, said heteroaryl group being optionally fused to a second aromatic ring which is an aryl or heteroaryl ring, and

the other R¹ represents an aliphatic ring, or a heterocyclic mono or bicyclic heterocyclic non-aromatic group having 4-10 atoms and 1-4 heteroatoms selected from O, S and N, said R¹ being optionally substituted with 1-3 R⁴ groups;

each R^2 independently represents hydroxy, formyl, $-\text{CH}_3\text{-aF}_a$, $-\text{OCH}_3\text{-aF}_a$, NH_2 , CN, halo, C_{1-6} alkyl or $-(\text{CH}_2)_{1-4}\text{OH}$;

each R^3 independently represents a member selected from the group consisting of:

$-\text{C}_{1-6}$ alkyl, $-(\text{CH}_2)_{1-6}\text{-OH}$, $-\text{C}(\text{O})\text{-OC}_{1-6}$ alkyl, $-(\text{CH}_2)_{1-6}\text{-OC}_{1-6}$ alkyl, $-(\text{CH}_2)_{1-6}\text{-NH}_2$, CN, $-\text{C}(\text{O})\text{-C}_{1-6}$ alkyl, halo, $-\text{C}_{2-6}$ alkenyl, $-\text{OC}_{1-6}$ alkyl, $-\text{COOH}$, $-\text{OH}$ or an oxo group;

each R^4 independently represents a member selected from the group consisting of:

$-\text{C}_{1-6}$ alkyl and the alkyl may be substituted with the same or different, from 1 to 3 hydroxyl groups, halo atoms or $-\text{OC}(\text{O})\text{-C}_{1-6}$ alkyl groups, the alkyl portion thereof being optionally substituted with from 1 to 3 halo atoms or $-\text{OC}_{1-6}$ alkyl groups;

$-\text{C}_{3-7}$ cycloalkyl;

$-\text{C}_{2-6}$ alkenyl;

$-\text{C}(\text{O})\text{-N}(\text{R}^{51})\text{R}^{52}$;

$-\text{S}(\text{O})_2\text{-N}(\text{R}^{51})\text{R}^{52}$;

$-\text{O-C}_{1-6}$ alkyl and the C_{1-6} alkyl may be substituted with a halogen or $\text{N}(\text{R}^{51})\text{R}^{52}$;

$-\text{S}(\text{O})_{0-2}\text{-C}_{1-6}$ alkyl;

$-\text{C}(\text{O})\text{-C}_{1-6}$ alkyl and the C_{1-6} alkyl may be substituted with a halo atom, amino group, CN, hydroxy group, $-\text{O-C}_{1-6}$ alkyl, $-\text{CH}_3\text{-aF}_a$, $-\text{OC}(\text{O})\text{-C}_{1-6}$ alkyl, $-\text{N}(\text{C}_{1-6} \text{ alkyl})\text{C}(\text{O})\text{O-C}_{1-6}$ alkyl, $-\text{NH-C}(\text{O})\text{O-C}_{1-6}$ alkyl, phenyl, $-\text{N}(\text{R}^{51})\text{R}^{52}$, $-\text{NH-C}(\text{O})\text{-C}_{1-6}$ alkyl, $-\text{N}(\text{C}_{1-6} \text{ alkyl})\text{-C}(\text{O})\text{-C}_{1-6}$ alkyl or $-\text{NH-S}(\text{O})_{0-2}\text{-C}_{1-6}$ alkyl;

$-\text{C}(\text{S})\text{-C}_{3-7}$ cycloalkyl;

$-\text{C}(\text{S})\text{-C}_{1-6}$ alkyl;

$-\text{C}(\text{O})\text{-O-C}_{1-6}$ alkyl;

$-(\text{CH}_2)_{0-4}\text{-N}(\text{R}^{53})\text{-C}(\text{O})\text{-R}^{54}$;

$-\text{N}(\text{R}^{53})\text{-C}(\text{O})\text{-O-R}^{54}$;

$-\text{C}(\text{O})\text{-aryl}$ optionally substituted with a halogen;

$-\text{C}(\text{O})\text{-aromatic hetero ring}$;

$-\text{C}(\text{O})\text{-aliphatic hetero ring}$;

a hetero ring optionally substituted with a halo atom or $-\text{OC}_{1-6}$ alkyl group, which is optionally substituted with a halo atom or an $-\text{O-C}_{1-6}$ alkyl group; and

a phenyl ring optionally substituted with a halo atom, -C₁₋₆ alkyl or -O-C₁₋₆ alkyl, the alkyl portions of which are optionally substituted with a halogen, CN, formyl, COOH, NH₂, oxo, hydroxy, hydroxyamidino or nitro group;

each R⁵¹ and R⁵² independently represents a hydrogen atom or -C₁₋₆ alkyl; or taken together with the nitrogen atom to which they are attached, R⁵¹ and R⁵² together form a 4- to 7-membered hetero ring;

each R⁵³ represents a hydrogen atom or a -C₁₋₆ alkyl group;

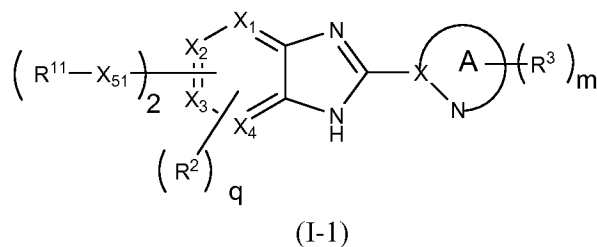
each R⁵⁴ represents -C₁₋₆ alkyl, or when R⁵³ and R⁵⁴ each represent alkyl groups, R⁵³, R⁵⁴ and -N-C(O)- together form a 4- to 7-membered nitrogen-containing aliphatic hetero ring, or R⁵³, R⁵⁴ and -N-C(O)-O- together form a 4- to 7-membered nitrogen-containing aliphatic hetero ring and the aliphatic hetero ring may be substituted with an oxo, or the aliphatic hetero ring may have 1 or 2 double bonds in the ring;

a represents an integer selected from 1, 2 and 3;

q indicates an integer of from 0 to 2; and

m indicates an integer of from 0 to 2.

Claim 28 (New) A compound as claimed in 27, which is represented by a formula (I-1):



or a pharmaceutically acceptable salt thereof, wherein:

one R¹¹ represents phenyl optionally substituted with from 1 to 3 R⁴ groups or a 5- or 6-membered nitrogen-containing aromatic hetero ring having from 1 to 4 hetero atoms selected from a group

consisting of a nitrogen atom, a sulfur atom and an oxygen atom and the nitrogen-containing aromatic hetero ring may be substituted with from 1 to 3 R⁴ groups, and

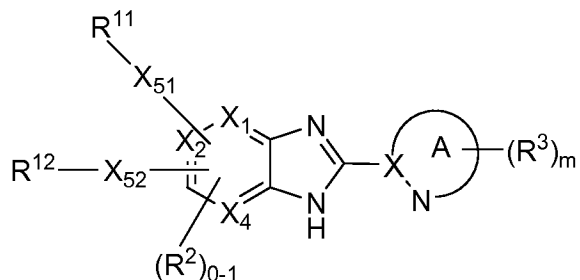
the other R¹¹ group represents an aliphatic or heterocyclic non-aromatic ring containing 5-6 total atoms, one of which is N, with up to 3 additional nitrogen atoms, and 0-1 O or S atom, or a 9-10 membered non-aromatic bicyclic heterocycle containing 1-4 heteroatoms, at least one of which is an N atom, up to 3 additional N atoms, and 0-1 O or S atom, said R¹¹ groups being optionally substituted with 1-3 R⁴ groups; and one X₅₁ represents -O-, -S-, -S(O)- or -S(O)₂-, and the other represents a bond.

Claim 29 (New) A compound in accordance with claim 28, or a pharmaceutically acceptable salt thereof, wherein both R¹¹ groups represent phenyl optionally substituted with from 1 to 3 R⁴ groups.

Claim 30 (New) A compound in accordance with claim 28, or a pharmaceutically acceptable salt thereof, wherein both R¹¹ groups represent a 5- or 6-membered nitrogen-containing aromatic hetero rings having from 1 to 4 hetero atoms selected from a group consisting of a nitrogen atom, a sulfur atom and an oxygen atom and the nitrogen-containing aromatic hetero ring may be substituted with from 1 to 3 R⁴ groups.

Claim 31 (New) A compound in accordance with claim 28, or a pharmaceutically acceptable salt thereof, wherein one R¹¹ represents a phenyl ring optionally substituted with from 1 to 3 R⁴ groups, and the other R¹¹ represents a 5- or 6-membered nitrogen-containing aromatic hetero ring having from 1 to 4 hetero atoms selected from a group consisting of a nitrogen atom, a sulfur atom and an oxygen atom, and the 5-6 membered nitrogen-containing aromatic hetero ring may be substituted with from 1 to 3 R⁴ groups.

Claim 32 (New) A compound represented by a formula (I-2):



(I-2)

or a pharmaceutically acceptable salt thereof, wherein:

X¹, X² and X⁴ represent carbon atoms;

ring A represents a member selected from the group consisting of:

thiazolyl, imidazolyl, isothiazolyl, thiadiazolyl, triazolyl, pyrazinyl, pyridyl, pyridazinyl, pyrazolyl and pyrimidinyl;

R¹¹ represents phenyl optionally substituted with from 1 to 3 R⁴ groups, or represents a 5- or 6-membered nitrogen-containing aromatic hetero ring having from 1 to 4 hetero atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said group being optionally substituted with from 1 to 3 R⁴ groups;

R¹² represents a non-aromatic 4- to 7-membered nitrogen-containing hetero ring having, as the hetero atom constituting the heterocyclic ring, at least one nitrogen atom and optionally having, as the other hetero atoms, from 1 to 4 hetero atoms selected from a group consisting of nitrogen, sulfur, and oxygen, said ring being optionally substituted with from 1 to 3 R⁴ groups, and when the hetero ring is an aliphatic hetero ring, then it may have 1 or 2 double bonds;

one of X₅₁ and X₅₂ represents -O-, -S-, -S(O)- or -S(O)₂-, and the other represents a direct bond;

if present, R² represents a member selected from the group consisting of: OH; formyl, -CH_{3-a}F_a, -OCH_{3-a}F_a, NH₂, CN, halo, C₁₋₆ alkyl and (CH₂)₁₋₄ OH;

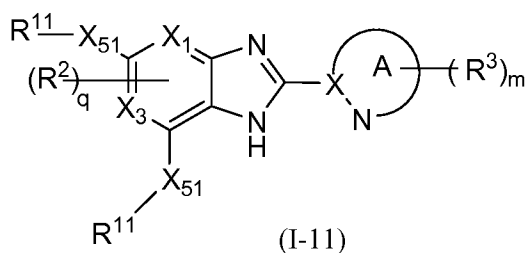
m is 0, 1 or 2 and

when present, each R^3 is independently selected from the group consisting of: $-C_{1-6}$ alkyl, $-(CH_2)_{1-6}-OH$, $-C(O)-OC_{1-6}$ alkyl, $-(CH_2)_{1-6}-OC_{1-6}$ alkyl, $-(CH_2)_{1-6}-NH_2$, CN, $-C(O)-C_{1-6}$ alkyl, halo, $-C_{2-6}$ alkenyl, $-OC_{1-6}$ alkyl, $-COOH$, $-OH$ and oxo.

Claim 33 (New) A compound in accordance with claim 32, or a pharmaceutically acceptable salt thereof, wherein R^{12} represents a 4- to 7-membered saturated nitrogen-containing aliphatic hetero ring having one nitrogen atom and optionally having 1 or 2 hetero atoms selected from a group consisting of nitrogen, sulfur and oxygen, said heterocyclic ring being optionally substituted with from 1 to 3 R^4 groups, and X_{52} is a single bond; or R^{12} represents a 5- to 7-membered nitrogen-containing aliphatic hetero ring having, as the atom constituting the hetero ring, at least one nitrogen atom and optionally having, as the other hetero atoms, 1 or 2 hetero atoms selected from a group consisting of nitrogen, sulfur and oxygen, and optionally having in the ring, 1 or 2 double bonds, said 5- to 7-membered hetero ring being optionally substituted with from 1 to 3 R^4 groups.

Claim 34 (New) A compound in accordance with claim 32, or a pharmaceutically acceptable salt thereof, wherein R^{12} represents a 5- to 7-membered nitrogen-containing aliphatic hetero ring having, as the atom constituting the hetero ring, at least one nitrogen atom and optionally having, as other hetero atoms, 1 or 2 hetero atoms selected from a group consisting of nitrogen, sulfur and oxygen and having, in the ring, 1 or 2 double bonds and the 5- to 7-membered hetero ring may be substituted with from 1 to 3 R^4 groups.

Claim 35 (New) A compound represented by formula (I-11), or a pharmaceutically acceptable salt thereof:



wherein:

X₁ and X₃ represent carbon atoms;

X represents a carbon or nitrogen atom;

ring A represents a member selected from the group consisting of thiazolyl, imidazolyl, isothiazolyl, triazolyl, oxazolyl, oxadiazolyl, pyrazinyl, pyridyl, pyrazolyl and pyrimidinyl;

one X₅₁ represents -O-, -S-, -S(O)- or -S(O)₂- and the other represents a direct bond;

q represents 0, 1 or 2;

each R² independently represents a member selected from the group consisting of: hydroxy, formyl, -CH_{3-a}F_a, -OCH_{3-a}F_a, NH₂, CN, halo, C₁₋₆ alkyl and -(CH₂)₁₋₄OH;

R¹¹ represents a phenyl optionally substituted with from 1 to 3 R⁴'s, or represents a 5- or 6-membered nitrogen-containing aromatic hetero ring having from 1 to 4 hetero atoms selected from a group consisting of a nitrogen atom, a sulfur atom and an oxygen atom and the nitrogen-containing aromatic hetero ring optionally substituted with from 1 to 3 R⁴ groups;

m represents 0, 1 or 2, and;

each R³ represents a member selected from the group consisting of: -C₁₋₆ alkyl, -(CH₂)₁₋₆-OH, -C(O)-OC₁₋₆ alkyl, -(CH₂)₁₋₆-OC₁₋₆ alkyl, -(CH₂)₁₋₆-NH₂, CN, -C(O)-C₁₋₆ alkyl, halo, -C₂₋₆ alkenyl, -OC₁₋₆ alkyl, -COOH, -OH and oxo.

Claim 36 (New) A compound of formula (I-0) which is selected from the following group consisting of:

1-(2-(6-(5-bromo-pyridin-2-yloxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,

1-(2-(6-(6-methanesulfonyl-pyridin-3-yloxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,

1-(2-(6-(4-hydroxymethyl-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
1-(2-(6-(4-methanesulfonyl-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
2-(6-(4-methanesulfonyl-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidine-1-carboxamide,
2-hydroxy-1-(2-(6-(4-methanesulfonyl-1-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
1-(2-(6-(6-ethanesulfonyl-pyridin-3-yloxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
1-(2-(6-(4-methanesulfonyl-phenoxy)-2-pyrazin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
2-fluoro-1-(2-(6-(4-methanesulfonyl-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
5-(6-(1-acetylpyrrolidin-2-yl)-2-pyridin-2-yl-1H-benzimidazole-5-yloxy)pyridine-2-carbonitrile,
1-(2-(6-(4-methanesulfonyl-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-2-methylamino-ethanone,
1-(2-(6-(4-methanesulfonyl-phenoxy)-2-(1H-pyrazol-3-yl)-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
1-(4-fluoro-2-(6-(4-methanesulfonyl-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
N-(5-(6-(1-acetylpyrrolidin-2-yl)-2-pyridin-2-yl-1H-benzimidazol-5-yloxy)-pyridin-2-yl)-acetamide,
1-(2-(2-(5-bromo-pyridin-2-yl)-6-(4-methanesulfonyl-phenoxy)-3H-benzimidazol-5-yl)-pyrrolidin-1-yl)-ethanone,
N-(2-(2-(6-(4-methanesulfonyl-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)pyrrolidin-1-yl)-2-oxo-ethyl)-acetamide,
6-(1-acetylpyrrolidin-2-yl)-5-(4-(methoxymethyl)phenoxy)-2-pyridin-2-yl-1H-benzimidazol monotrifluoroacetate,
1-(4-(((6-(1-acetylpyrrolidin-2-yl)-2-pyridin-2-yl-1H-benzimidazol-5-yl)oxy)phenyl)pyridin-2(1H)-one,
6-(1-acetylpyrrolidin-2-yl)-5-(((6-(5-methyl-[1,2,4]-oxadiazol-3-yl)pyridin-3-yl)oxy)-2-pyridin-2-yl-1H-benzimidazole,

(2-(2-(5-((2'-fluorobiphenyl-4-yl)oxy)-2-pyridin-2-yl-1H-benzimidazol-6-yl)pyrrolidin-1-yl)-2-oxoethyl)methylamine,
6-(1-acetylpyrrolidin-2-yl)-5-((6-([1,2,4]-oxadiazol-3-yl)pyridin-3-yl)oxy)-2-pyridin-2-yl-1H-benzimidazole,
6-(1-acetylpyrrolidin-2-yl)-5-(4-(2-methyl-2H-tetrazol-5-yl)phenoxy)-2-pyrazin-2-yl-1H-benzimidazole,
5-(1-acetyl-3-fluoropyrrolidin-2-yl)-6-(4-(methanesulfonyl)phenoxy)-2-pyridin-2-yl-1H-benzimidazole,
6-(1-acetylpyrrolidin-2-yl)-5-((6-(2-methyl-2H-tetrazol-5-yl)pyridin-3-yl)oxy)-2-pyridin-2-yl-1H-benzimidazole,
6-(1-acetylpyrrolidin-2-yl)-5-(4-(2-methyl-2H-tetrazol-5-yl)phenoxy)-2-pyridin-2-yl-1H-benzimidazole,
5-(1-acetyl-5-methylpyrrolidin-2-yl)-6-(4-(methanesulfonyl)phenoxy)-2-pyridin-2-yl-1H-benzimidazole,
6-(1-acetylpyrrolidin-2-yl)-5-((6-(2-methyl-2H-tetrazol-5-yl)pyridin-3-yl)oxy)-2-pyrazin-2-yl-1H-benzimidazole,
6-(1-acetylpyrrolidin-2-yl)-5-(6-methoxymethylpyridin-3-yl)oxy)-2-pyridin-2-yl-1H-benzimidazole,
2-(2-(5-(4-(2-methyl-2H-tetrazol-5-yl)phenoxy)-2-pyridin-2-yl-1H-benzimidazol-6-yl)pyrrolidin-1-yl)-2-oxoethanol,
2-(5-(4-(2-methyl-2H-tetrazol-5-yl)phenoxy)-2-pyridin-2-yl-1H-benzimidazol-6-yl)pyrrolidine-1-carboxamide,
5'-((6-(1-acetylpyrrolidin-2-yl)-2-pyridin-2-yl-1H-benzimidazol-5-yl)oxy)-2H-1,2'-bipyridin-2-one,
3-(4-((6-(1-acetylpyrrolidin-2-yl)-2-pyridin-2-yl-1H-benzimidazol-5-yl)oxy)phenyl)-1,3-oxazolidin-2-one,
6-(1-acetylpyrrolidin-2-yl)-5-((6-methylpyridin-3-yl)oxy)-2-pyridin-2-yl-1H-benzimidazole,
6-(1-acetylpyrrolidin-2-yl)-5-((6-pyrazin-2-ylpyridin-3-yl)oxy)-2-pyridin-2-yl-1H-benzimidazole,
6-(1-acetyl-3-fluoropyrrolidin-2-yl)-5-((2'-fluorobiphenyl-4-yl)oxy)-2-pyridin-2-yl-1H-benzimidazole,
3-(4-((6-(1-acetylpyrrolidin-2-yl)-2-pyrazin-2-yl-1H-benzimidazol-5-yl)oxy)phenyl)-1,3-oxazolidine-2-one,
6-(1-acetylpyrrolidin-2-yl)-2-pyrazin-2-yl-5-((6-pyrazin-2-ylpyridin-3-yl)oxy)-1H-benzimidazole,
6-(1-acetylpyrrolidin-2-yl)-5-((6-(5-methyl-[1,2,4]-oxadiazol-3-yl)pyridin-3-yl)oxy)-2-pyrazin-2-yl-1H-benzimidazole,

1-(4-(((6-(1-acetylpyrrolidin-2-yl)-2-pyrazin-2-yl-1H-benzimidazol-5-yl)oxy)phenyl)ethanone,
6-(1-acetylpyrrolidin-2-yl)-5-(4-(5-methyl-[1,2,4]-oxadiazol-3-yl)phenoxy)-2-pyrazin-2-yl-1H-benzimidazole,
6-(1-acetyl-5-methylpyrrolidin-2-yl)-5-(4-methanesulfonyl-phenoxy)-2-pyrazin-2-yl-1H-benzimidazole,
N-methyl-2-(2-(5-(4-(2-methyl-2H-tetrazol-5-yl)phenoxy)-2-pyridin-2-yl-1H-benzimidazol-6-yl)pyrrolidin-1-yl)-2-oxoethanamine,
6-(1-acetyl-5-methylpyrrolidin-2-yl)-5-(((6-(methoxymethyl)pyridin-3-yl)oxy)-2-pyrazin-2-yl-1H-benzimidazole,
1-(1-(6-(4-methanesulfonyl-phenoxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)-pyrrolidin-2-yl)-ethanone,
1-(1-(6-(6-methanesulfonyl-pyridin-3-yloxy)-2-pyridin-2-yl-3H-benzimidazol-5-yl)pyrrolidin-2-yl)-ethanone,
1-(1-(6-(6-ethanesulfonyl-pyridin-3-yloxy)-2-pyrazin-2-yl-3H-benzimidazol-5-yl)pyrrolidin-2-yl)ethanone, or
1-(1-(6-(6-ethanesulfonyl-pyridin-3-yloxy)-2-pyrazin-2-yl-3H-benzimidazol-5-yl)-4-fluoropyrrolidin-2-yl)-ethanone, or a pharmaceutically acceptable salt thereof.

Claim 37 (New) A pharmaceutical composition comprising a compound in accordance with claim 27 in combination with a pharmaceutically acceptable carrier.

Claim 38 (New) A method of treating type 2 diabetes in a mammalian patient in need of such treatment comprising administering to the patient a compound in accordance with claim 27 in an amount that is effective to treat type 2 diabetes.

Claim 39 (New) A method of treating obesity in a mammalian patient in need of such treatment comprising administering to the patient a compound in accordance with claim 27 in an amount that is effective to treat obesity.